

SUB B, 7
cont
a

GaN compound semiconductor layer which includes a P type impurity;

(b) irradiating electromagnetic radiation of a predetermined wavelength onto said

GaN compound semiconductor layer which includes a P type impurity;

and

(c) activating said P type impurity by applying thermal energy to said P type

impurity while irradiating said GaN compound semiconductor layer.

4. (Amended) The method according to claim 3, wherein said step (a) includes the steps of:

(a1) forming a buffer layer on said substrate;

(a2) forming an N type GaN compound semiconductor layer on said buffer layer;

and

(a3) forming said GaN compound semiconductor layer which includes a P type

impurity on said N type GaN compound semiconductor layer.

5. (Amended) The method according to claim 3, wherein said step (a) includes the steps of:

(a1) forming a buffer layer on said substrate;

(a2) forming said GaN compound semiconductor layer which includes a P type

impurity on said buffer layer; and

(a3) forming said N type GaN compound semiconductor layer on said GaN

compound semiconductor layer which includes a P type impurity.

6. (Amended) The method according to claim 3, wherein said P type impurity is at least one

of Mg, Zn, Cd, Be, and Ca.

7. (Amended) The method according to claim 3, wherein electromagnetic radiation having a

wavelength of 4.5 μm is irradiated with an intensity of 0.01 mW/mm² or greater at

said step (b).